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ABSTRACT

The paper describes the efforts of Purdue University to meet the continuing professional education (CPE) needs of professionals serving the communicatively handicapped through audio, video, and computer teleconferencing. Two types of interactive television programs are currently provided: videotapes of invited speakers and participant discussion and graduate telecourses made available to campuses that do not have formal training programs in communicative disorders. Audioteleconferencing efforts have included a project to develop a speaker telephone CPE model for professionals serving handicapped school children in Indiana. Evaluation data suggest participant satisfaction with the speaker telephone CPE format and a 55% saving over the information delivered in the traditional face-to-face mode. Computer teleconferencing has been undertaken via SpecialNet, a national computer-based instant-communication network accessed by telephone. (CL)

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EDUCATIONAL TELECONFERENCING

CONTINUING PROFESSIONAL EDUCATION IN SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY

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Continuing professional education (CPE) is recognized as a critical component of professional accountability for persons serving the communicatively handicapped. Traditionally, the primary source of organized CPE has been the face-to-face meeting. However, the information explosion created by advances in computer technology, and rising travel costs have created a need to explore alternatives CPE models. These alternative models must be both time and cost effective. The purpose of this paper is to summarize Purdue University's efforts to meet the CPE needs of practicing professionals through audio, video and computer teleconferencing.

INTERACTIVE TELEVISION

Purdue has been delivering multi-point interactive television CPE to practicing professionals serving the communicatively handicapped since 1969. The project utilizes the Indiana Higher Education Telecommunication Systems (IHETS). Authorized by the 1967 Indiana General Assembly, IHETS links together fifteen Indiana state universities and their regional campuses by a closed-circuit television network. IHETS has two unique features which lend themselves well to CPE. First, a closed circuit system permits the originator to select the viewing audience; and second, IHETS incorporates a talk-back system that enables viewers to engage in discussion with the lecturer as well as participants at the other reception centers.

Two types of interactive television programs are currently provided. Psi Iota Xi, a philanthropic sorority, currently sponsors four two-hour telecasts annually. Speakers are selected from throughout the United States and are chosen on the basis of their expertise and their oral communication skills. The format for each two-hour telecast is flexible enough to

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meet the needs of the invited speaker and the materials presented. However, the format usually followed is approximately a ninety minute presentation followed by thirty minutes of discussion with the participants.

All telecasts are videotaped and, subject to the speaker's approval, distributed to interested persons through Purdue University's Continuing Education Administration. To date the project has delivered 35,000 contact hours of live television CPE and 48,000 contact hours through videotape distribution. Average attendance for all fifteen reception centers is 237 persons, with a range of 210 to 356.

At the end of each telecast participants are requested to complete an evaluation designed to assess the quality of all aspects of the program. Evaluation data covering the last twelve telecasts drawn from two thousand participant evaluations revealed 39% rated the telecast excellent, 52% good, 8% fair, and 1% poor.

In providing CPE programs there are two very important questions that providers must ask. (1) How much do the learners already know? (2) How much have they learned as a result of participation? To answer these questions a pre-test and post-test are randomly utilized. The average number of errors made by 250 participants on a ten-question pre-test, was seven. However, on the post-test the average number of errors was one. Not only had the viewers been exposed to new information, they had mastered it with an average score of ninety per cent correct. There was no significant difference in test scores between those participants in the live classroom audience and those viewing the telecast at the reception centers.

A cost analysis revealed that this project provided instruction for thirteen times as many persons as would be expected to attend under the traditional model at one-fifth of the cost per contact hour of instruction.

In 1978, the interactive television offerings were expanded to include graduate credit courses. To avoid duplicating existing resources, the telecourses are made available only to those campuses that do not have training programs in communicative disorders. Courses provide three registration options; 1) two semester hours of graduate credit for a grade (exams required), 2) two semester hours of graduate credit, pass/no pass (exams required), 3) audit with no credit and no exams

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(exams available for participant self evaluation).

Six telecourses have been offered, one each year during the fall semester. Two of the telecourses, Voice Disorders, and Management Techniques for Young Children with Hearing Loss, have been videotaped for distribution by Purdue Continuing Education Administration.

Interest in Purdue's teleconferencing activities has given impetus to considering national and/or international satellite transmission. Plans are currently underway to develop a Satellite Speech Pathology and Audiology Continuing Education (SSPACE) program.

SPEAKER TELEPHONE CPE

While interactive television has demonstrated its value as an alternative CPE model, it did not completely meet the identified need to deliver information directly to the practicing professional's work site. Audio teleconferencing or speaker telephone CPE has that potential. In 1979, Purdue received a three-year grant from the Indiana Department of Public Instruction, Division of Special Education, to develop a speaker telephone CPE model for professionals serving handicapped school children in Indiana. The implementation format was as follows:

FIRST YEAR (1979-1980): Speech-language and hearing clinicians in 16 participating local education agency (LEA) special education programs were each provided with 10 hours of continuing education. During this initial period, the delivery totalled 160 hours.

SECOND YEAR (1980-1981): During this year, 31 additional LEA's were added. The speech-language-hearing clinicians and selected special education personnel employed by 47 LEA's were provided 470 hours of continuing education. Each LEA determined locally which personnel would receive training.

THIRD YEAR (1981-1982): During the last funding year, 17 additional LEA's joined the 47 continuing programs. The format remained the same with all 64 LEA's entitled to 10 hours of continuing education. The 64 special education cooperatives selected speakers from throughout the continential United

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States. All consultants were chosen on the basis of their recognized expertise in the topic area and their speaking/teaching skills.

The director of each participating special education LEA appointed a staff continuing education committee. The committee, after consulting with colleagues and the director, prescribed the content and format of instruction based on identified local needs. The chairman of the local continuing education committee served as a coordinator, working with the project director and the selected consultant(s) in planning and evaluation. LEA coordinators and directors were invited to Purdue to receive their speaker telephones and to participate in an orientation/training conference. Instruction included equipment operation and the development of effective instructional strategies. Each participating special education cooperative was provided a Darome Incorporated, Mini-Convener, Model 610-A for use during the project.

EVALUATION

On-going evaluation was conducted throughout the project. Participants completed an evaluation after each speaker telephone session. Item analysis data were returned to the LEA coordinator and the consultants for their information. At the conclusion of the third year, all evaluations (2438) were subjected to a single group item analysis. Coordinators were mailed an evaluation item analysis of all their LEA combined sessions and an item analysis of the combined 64 LEA's. Each coordinator submitted an annual report that included narrative comments as to the strengths and weaknesses of the project.

Consultants were also asked to evaluate each presentation, and copies were forwarded to the appropriate LEA coordinator. Again, at the conclusion of the year a single group item analysis was conducted and forwarded to coordinators and participating consultants.

Evaluation data for the third year reveal that the project provided 5,377 contact hours of continuing education. This is particularly significant in view of the fact that 37 per cent of the participants reported having had no hours of CPE in the preceding year. Participant evaluations strongly support the viability of the speaker telephone as an alternative continuing

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education model. Two questions on the participant evaluation are of particular importance. 1) Seventy-eight per cent of the participants agreed that they were immediately able to relate the information acquired to their clinical/instructional needs. 2) Eight-seven per cent of those surveyed agreed that the speaker telephone project was excellent. Strategies for enhancing participant interaction with consultants and strategies for providing consultants with more effective feedback during and after teleconferences need continued development and consideration.

Consultants with no prior speaker telephone instructional experience frequently expressed considerable apprehension about providing continuing education to persons they could not see. In one instance a consultant was so uncomfortable with speaker telephone instruction that he withdrew from the project after his first session. However, consultant final evaluation comments reflected a very positive attitude toward the success of their efforts.

Item analysis of the evaluations completed by the third year consultants revealed two significant points. 1) Eighty-three per cent of the consultants agreed that their speaker telephone sessions went very well. 2) Eighty-two per cent agreed they would be interested in continuing as a speaker telephone consultant.

COST ANALYSIS

While participant evaluation data were very positive, it is important to examine the project in terms of cost effectiveness. A record was kept of the distance each consultant would have had to travel to deliver the information face-to-face. During the project 282 consultants would have had to travel 519,948 miles to deliver 991 hours of instruction. Speaker telephone CPE in this project resulted in a 55 percent savings over the information delivered via the traditional face-to-face mode.

The true measure of success of the speaker telephone continuing education project will be the willingness of the participating LEA's to continue the project without supplemental funding. Each LEA was informed that if they would provide staff speaker telephone CPE for the next three years they could keep the equipment. The cost of this three year commitment represents the approximate cost of the Darome 610-A, Mini-Convener.

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Of the sixty-four participating LEA's, two chose not to continue the project and returned the equipment. Six LEA's requested and received one additional unit. Requests were based on problems related to geographic size of the LEA making it difficult to bring staff to one central location and/or large number of staff wishing to participate.

COMPUTER TELECONFERENCING

In September of 1982 Purdue's Department of Audiology and Speech Sciences became a member of SpecialNet, a national computer-based instant-communication network that is accessed by telephone. With the acquisition of SpecialNet, Purdue became the only university training program of its kind to be actively utilizing all three modes of teleconferencing.

SpecialNet provides a special education information database and electronic mail service through the facilities of General Telephone's Telenet communications network. Users include local, state, national and international education agencies, university training programs, resource centers and special handicapped projects.

Purdue's experience with SpecialNet has been brief. During the past 12 months its tremendous capability as a vehicle for exchanging and disseminating information quickly and inexpensively has been amply demonstrated. The Indiana Department of Public Instruction, Division of Special Education, has awarded Purdue a grant to develop graduate courses which will combine the use of speaker telephone and computer teleconferencing.

CONCLUSIONS

The potential of educational teleconferencing has been substantially demonstrated. The technology is waiting to be used. The question is, "Will it be used?" Correction, the question is, "When will it be used?" Should speech-language pathologists and audiologists fail to keep pace with technology in all aspects of their professional endeavors they may find themselves obsolete victims of the information revolution.

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